



MPICT Center Funding Recommended

ICONS would like to express its appreciation to all ICONS Advisory Panel members, CCSF administrators, faculty and staff, and prospective educational partners from Ohlone College, Cabrillo College, Santa Rosa Junior College and Foothill College for the tremendous support demonstrated to the National Science Foundation evaluation team for our proposal to establish the Mid-Pacific Information and Technology (MPICT) Center.

The NSF team was very favorably impressed with our collective efforts and has recommended MPICT for funding. We are continuing our advocacy for MPICT and have received indications that MPICT will be funded this Fall.

MPICT would build on ICONS' successes to promote, harmonize and improve ICT education throughout Northern California, Northern Nevada, Southern Oregon, Hawaii and the Pacific Territories.

The original MPICT proposal and subsequent Q&A are available at www.ccsf.edu/ICONS.



CNIT Students Install Fiber at BAVC

This quarter, ICONS facilitated a real world, hands-on installation project in which CNIT students from City College of San Francisco installed a very high-performance optical fiber network for the Bay Area Video Coalition (BAVC).

BAVC (www.bavc.org) is a 30-year-old San Francisco non-profit located across the street from KQED, our public radio and television stations. BAVC provides valuable services to the San Francisco Bay Area community in teaching people video communications and production technologies, enabling cost-effective pre- and post-production work for films and videos, preserving video media, and providing a variety of other beneficial programs and services. BAVC is a valuable, contributing member of the ICONS Advisory Panel.



CCSF Students Installing BAVC Fiber

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CNIT/ICONS Continue High School Outreach

This quarter, CNIT and ICONS are continuing efforts to build community and cooperative benefit with San Francisco high schools, adding Cisco Academies and presenting at the 3rd annual Math, Science and CTE Conference.

In June, CNIT added 3 new San Francisco public schools to those it supports as a Cisco Regional Academy: George Washington, Mission and Lowell High Schools. Funding for public school additions was facilitated by Marigrace Cohen, Director, School to Career Office of the San Francisco Unified School District, who is a member of ICONS' Advisory Panel. A week-long "train the trainer" event was conducted at CCSF, by Pierre Thiry aided by Richard Grotegut from MPICT Regional Partner, Ohlone College.



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Most discussions of communications bandwidth are now in megabits (millions of digital bits) per second. For example, a high-speed DSL connection in the U.S. might transfer 5 megabits per second (Mbps) downstream and 1 Mbps upstream. The multi-mode optical fiber installed at BAVC delivers 10 gigabits (10,000 megabits) per second to each of 3 data jacks at 16 different locations in BAVC's facility. That's 2,000 times the download speed and 10,000 times the upload speed of a typical DSL connection per data jack. Additionally, BAVC's fiber is immune to electromagnetic interference problems that sometimes plague copper wiring solutions. According to Chris Lincoln, BAVC's Director of Technology, Innovation & Media Arts: "BAVC's new fiber network is screaming fast and extremely reliable. We've transferred files via fibre channel at over 400 mega**bytes**/second."



BAVC's Chris Lincoln and CCSF Team Members in BAVC Control Room

The new optical fiber infrastructure allows BAVC to operate a state-of-the-art network, instructional environment and video production facilities. Again, according to Chris Lincoln: "BAVC's network improvements have resulted from an extensive collaboration with City College of San Francisco students, the ICONS team and industry partners--Force10 Networks, Apple, Seimon and Corning, whose equipment and materials were used to build the network with generous funding from the ZeroDivide Foundation. Together, we have assembled an ultra high performance technical solution for the benefit of BAVC's internal staff and faculty, associated producers and partners, students and broader community."

The network was installed just in time to support BAVC's 5/29-6/8 *Producers Institute for New Media Technologies* (www.bavc.org/producersinstitute), a ten-day residency for eight creative teams (independent producers or public broadcasters) with a shared goal of developing and prototyping a multi-platform project inspired by, or based on a significant documentary project. The Institute develops socially relevant media projects for emerging digital platforms. Producers participate in high-level industry roundtables, intense one-on-one project development with technical mentors, new media storytelling workshops, and hands-on prototyping of their ideas.

Participants adapt and develop film, video, and audio content for delivery using a range of interactive formats, including but not limited to video game applications, interactive, web-based experiences, mobile streaming, multi-user communities, and new educational software. The Institute provides creative mentors, technology consultants and advisors based on project needs. At the end of the ten-day residency, all participants demonstrated and pitched their projects to a panel of VC funders, industry leaders, and foundations.

"This year's Producers Institute was a smashing success, in part because of the high performance network environment our producers and participants were able to use. Producer's Institute teams were able to edit directly via fiber using our Storage Area Network and projects were managed centrally on a high performance media asset management system, Apple's new Final Cut Server." said Chris Lincoln.

ICONS made available to the project a fusion splicing device which allowed students to fuse together pieces of optical fiber (glass) only 50 microns in diameter.



Chris Lincoln with CCSF Students Operating Fusion Splicer

CCSF students paid to contribute to the project were: Luan Vu-Le, Nathan Worley, Oliver Wilson, Kom Wong, Alexey Efimov, Warren Hill and Al Yates. ICONS' James Jones and Pierre Thiry facilitated student participation. CNIT faculty members Sam Bowne and Sufyaan Mateen assisted.

ICONS' PI, Pierre Thiry said: "Many thanks to Chris Lincoln, BAVC's Executive Director – Ken Ikeda, and the rest of the BAVC staff for their extremely enthusiastic and accommodating support of this opportunity for City College of San Francisco CNIT students to gain real world experience with the cutting edge technologies they learn in the classroom. BAVC has bent way over backwards to make this project a success, and we hope this is the beginning of a long, mutually-beneficial collaboration between BAVC and City College of San Francisco."

Thanks to all who made this project a success!

Dennis C. Frezzo, from Cisco Systems, who founded the world's first Cisco Academy at Thurgood Marshall High School in San Francisco in 1997, gave a guest lecture on the latest version of Packet Tracer, an exceptional network simulation tool of which he is the lead developer

The CNIT Department expects to add private Sacred Heart Cathedral Preparatory School this year and to continue to expand service to San Francisco high schools as a Cisco Regional Academy.



Also in June, City College of San Francisco hosted the 3rd annual Math, Science and Career & Technical Education Conference for K-14 teachers. This event attended by more than 100 participants, is designed to further the math, science and CTE content knowledge of teachers in San Francisco by providing a venue for CCSF, San Francisco State University and San Francisco Unified School District faculty and future teachers to interact, explore new developments in science, develop a deeper understanding of the future directions of technology and share strategies for instruction to create a community of teaching and learning.

Of twenty-four workshops at the event, CNIT/ICONS conducted four. Pierre Thiry led a hands-on introduction to understanding wireless networking. Maura Devlin-Clancy taught how Moodle and the features of its Web 2.0 tools can be used by math and career/technical teachers. Sam Bowne presented two Ethical Hacking modules, on defeating logon passwords and on hijacking Gmail accounts.

This event was co-sponsored by the California Community College Chancellor's Office and the Wells Fargo Foundation and supported by SFUSD, the Bay Area Community College Consortium, the California Post-Secondary Education Commission, WISE and STC office. CNIT/ICONS are pleased to contribute to its success.

Finally, City College of San Francisco is pleased to have been able to assist the San Francisco Unified School District by donating a large number of HP Procurve Ethernet switches it is replacing as part of its Ethernet switch conversion project, profiled in last quarter's ICONS newsletter.

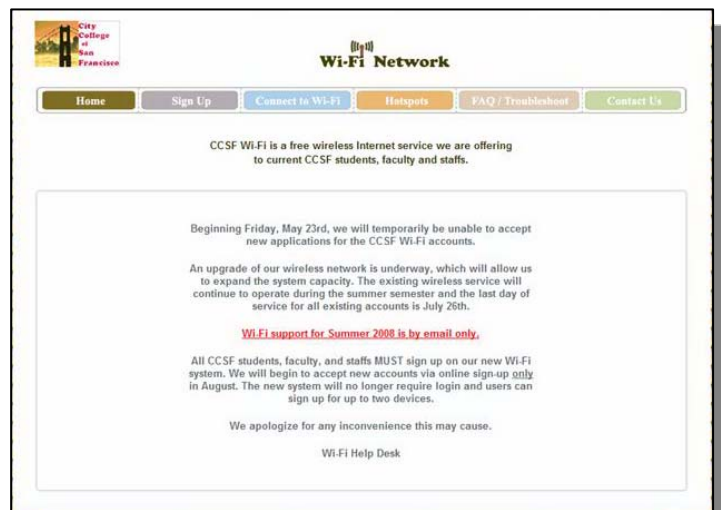
"We are pleased to be able to pass along benefits of San Francisco voter approved bonds to our colleagues at SFUSD at no cost to the district," said CCSF Network Manager and ICONS Co-PI Tim Ryan.



CNIT Helps CCSF Support Wireless Networks

During the 2007-2008 school year, CNIT staff and students worked with the college ITS Department to provide support for the City College WiFi network. This collaboration resulted in a streamlined signup process, a more informative web page and expanded hours for in-person technical assistance. Approximately 2,000 students registered for WiFi service during the year and accessed the network from 30 hotspots on the Ocean, Mission, Downtown and Evans Campuses.

Use of the WiFi network requires students to register the physical (MAC) address of their laptop, or other user device, and also to enter a WPA key. These security requirements ensure the network is used only by students of CCSF and also provides encryption of their data communications to protect against identity theft.



CCSF Wireless Network Web Page

The involvement of CNIT in the support effort allowed our student workers to gain hands-on experience in managing a dynamic network environment and also gave them experience in dealing with unexpected issues, such as adding iPhones and other PDA devices to the network. This enabled their learning experience to move beyond the classroom, using a model we intend to replicate on other projects in the future.

During summer 2008, the WiFi network will be upgraded to 802.11g equipment provided by HP ProCurve. This upgrade will provide faster access speeds, improved network management capabilities and a streamlined login process which will automatically authenticate students without having to enter a user ID and password.



ProCurve Wireless Edge Services Module (WESM)



ProCurve Radio Port 220

Special thanks to Shirley Ho, Jiaxin Zhan and Luis Muniz-Maya for making this initiative successful!

CNIT GRADUATES!

The CNIT Department is pleased to report that eight students received its new Associate of Science (AS) degree in Computer Networking and Information Technology this semester, the first semester in which that was a possibility.



CCSF Trustee Lawrence Wong Awarding CNIT Degrees

Additionally, some thirty CNIT students received academic certifications this semester.

Congratulations to our new CNIT graduates and certificate holders!



ICONS in EDTECH Magazine

The May/June Issue of EDTECH Magazine includes a profile of City College of San Francisco's Metro Area Network and how that helped lead to NSF funding for ICONS. The article is entitled "Big Band(width) and the Expanding University: MANS bring multiple campuses and local communities together for economic opportunities" and is available online at www.edtechmag.com/higher/may-june-2008/big-band-width-and-the-expanding-university.html.

Quoting from the article: "Setting up a MAN has a direct academic benefit. For example, in 2005 the City College of San Francisco was awarded an Advanced Technological Education grant from the National Science Foundation. This grant facilitated the creation of a new course that teaches the principles of fiber optics and allows students to gain hands-on experience in fiber splicing, maintenance and operating characteristics."

CNIT Instructor Benefits from ICONS

At the beginning of the ICONS grant, Sam Bowne was a part-time CNIT instructor with a B.S. in Physics (Edinboro University of PA), a Ph.D. in Physics (University of Illinois, Urbana Champaign), various Microsoft/CompTIA certifications, and a passion for IT and teaching.

With ICONS funding, Sam obtained Corning Certified Fiber Optic Technician training and developed and delivered ICONS' first new course, Fiber Optic Technology, which he successfully delivered in the Spring and Fall of 2006, adapted for the ICONS 2006 and 2007 Summer Convergence Workshops, demonstrated at the ICONS' hosted National Center for Telecommunications Technology (NCTT) Winter 2007 Conference and will be team teaching this Fall.

ICONS sponsored additional training which helped Sam obtain four additional Microsoft XP and Vista certifications, an additional CompTIA certification and an ability to teach in the Cisco Academy.

When Sam became interested in Ethical Hacking, after attending a DEFCON conference in Las Vegas, ICONS' support helped Sam become a "Certified Ethical Hacker" and develop a first and then a second, advanced CNIT course in Ethical Hacking, which he has successfully delivered over 3 semesters.

Ethical Hacking has led to many professional development and speaking opportunities for Sam, including presentations at the Convergence Technology Center's "Working Connections" events in Texas in summers of 2007 and 2008, a presentation attending by several hundred people at the 2007 DEFCON in Las Vegas, a presentation to technical educators from around the country at the National Center for Telecommunications Technology (NCTT) Winter 2007 Conference and the SAME-TEC 2008 conference in Austin, TX in summer of 2008, and a presentation to Bay Area professionals of the San Francisco IEEE Communications Society chapter in June.

The Fiber Optics and both Ethical Hacking courses were further enabled by equipment and system upgrade investments by ICONS.

CNIT and ICONS are proud to report that Sam is now a full-time member of the CNIT faculty and a key contributor to many improvements to CNIT department offerings and operations.

According to Sam: "ICONS funding has helped tremendously in developing new classes, paying for teacher training and for lab equipment. The new classes have attracted students to our department, and made them happier and more enthusiastic about learning. Our program is modern and relevant to real-world industry requirements, and is respected by potential employers."



Sam Bowne at Work